

WHAT IS CLAIMED IS

1. A vehicle drive train system comprising a motorized machine for driving wheels of a vehicle, wherein the motorized machine is powered only by energy obtained from the wheels.

5 2. A vehicle drive train system used for a vehicle in which some wheels are driven by an engine and the other wheels are driven by a motorized machine, comprising the motorized machine, wherein

the motorized machine is powered only by energy obtained
10 from wheels.

3. A vehicle drive train unit used for a vehicle in which some wheels are driven by an engine and the other wheels are driven by a motorized machine, comprising an independent electric power system separated from the engine and its electric system,
15 and the unit converts mechanical energy of wheels other than wheels driven by the engine into electric energy and stores the electric energy, and then reconverts the stored electric energy into mechanical energy to drive wheels other than the wheels driven by the engine.

20 4. The vehicle drive train unit according to Claim 3, wherein

the unit is detachably attached to the vehicle.

5. The vehicle drive train unit according to Claim 3, wherein

25 the unit is integrally attached to a differential gear which

transmits the power of the unit to wheels.

6. A vehicle drive train unit, comprising a motorized machine for driving wheels and a capacitor device,

wherein the motorized machine and the capacitor device are
5 integrated into a single unit.

7. The vehicle drive train unit according to Claim 6, further comprising a translator for electric power provided between the motorized machine and the capacitor device,

wherein the motorized machine, the capacitor device and
10 the translator are integrated into the single unit.

8. The vehicle drive train unit according to Claim 6, further comprising:

a translator for electric power provided between the motorized machine and the capacitor device; and

15 a controller for controlling the translator;

wherein the motorized machine, the capacitor device, the translator and the controller are integrated into the single unit.

9. The vehicle drive train unit according to any of Claims
20 6 to 8,

wherein the unit is integrally attached to a differential gear.

10. The vehicle drive train unit according to any of Claims 7 to 9,

25 wherein the motorized machine functions as both a motor

and a generator; and while the motorized machine functions as a motor, the translator translates the electric power from the capacitor device into a predetermined level of power to be supplied to the motor as a driving power, and while the motorized machine functions as a generator, it translates electric power generated by the motorized machine into a predetermined level of power to be supplied to the capacitor device.

11. The vehicle drive train unit according to any of Claims 6 to 10, further comprising an electric brake which is powered by the capacitor device,

wherein the electric brake is integrally built in the unit.

12. The vehicle drive train unit according to any of Claims 6 to 11,

wherein the capacitor device is comprised of a battery and a condenser.

13. The vehicle drive train unit according to any of Claims 7 to 12,

Wherein the motorized machine is an AC motor-generator; the translator is an inverter; and a device with a function of increasing and decreasing voltage is provided between the inverter and the capacitor device.

14. The vehicle drive train unit according to any of Claims 8 to 13, further comprising:

wherein the unit has a first housing which houses a differential gear; and a second housing which houses the

motorized machine, the capacitor device, the translator and the controller;

wherein these housings are joined; the second housing is partitioned into a first chamber and a second chamber by a plastic wiring board in an airtight manner; the first chamber houses the motorized machine and the capacitor device; and the second chamber houses the controller.

15. An engine-motor hybrid vehicle drive train system which drives either front wheels or rear wheels by an engine, and the other wheels by a motor as needed, characterized in that a drive part which is operated by the motor is constituted by a vehicle drive train unit as described in any of Claims 3 to 14.

16. The vehicle drive train system which drives at least some wheels by a motor, characterized by having a vehicle drive train unit as described in any of Claims 3 to 14.